No. 619,471. Patented Feb. 14, 1899.

B. FELLOWES & H. VAN HOEVENBERGH.

ELECTRIC BRANDING DEVICE.

(Application filed Aug. 2, 1894.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1,

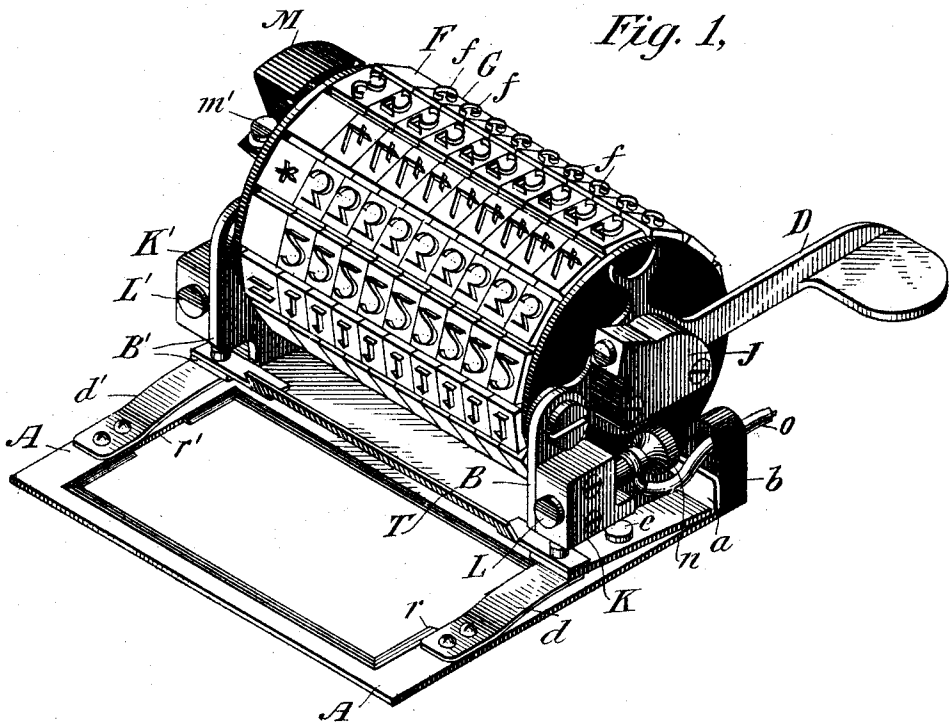
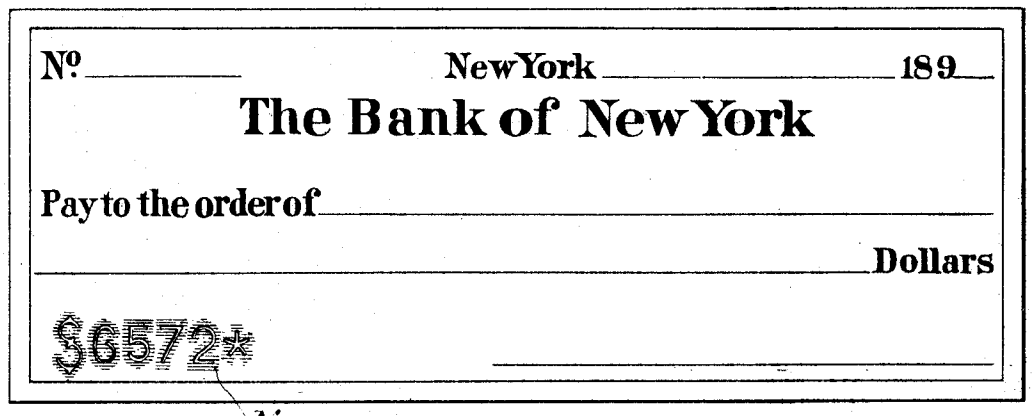


Fig. 2,



Witnesses
C. E. Ashley
H. W. Boyd

Inventors
Birney Fellowes & Henry Van Hoevenbergh
By their Attorneys
Pope Ludeloque

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 619,471. Patented Feb. 14, 1899.

B. FELLOWES & H. VAN HOEVENBERGH.

ELECTRIC BRANDING DEVICE.

(Application filed Aug. 2, 1894.)

(No Model.) 3 Sheets—Sheet 2.

Fig. 3,

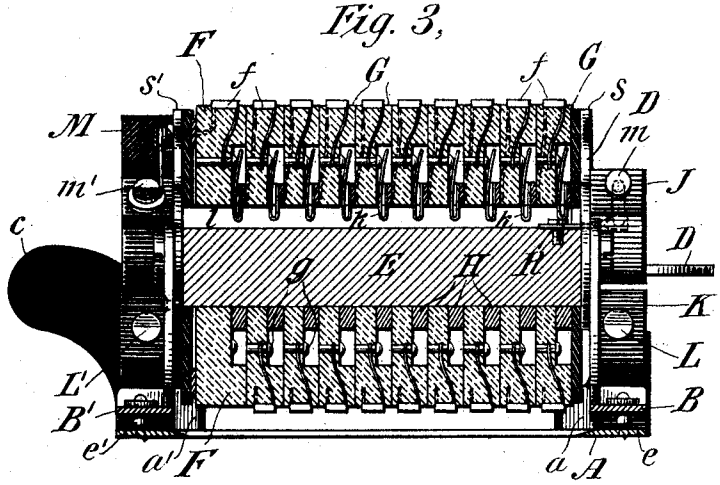


Fig. 4,

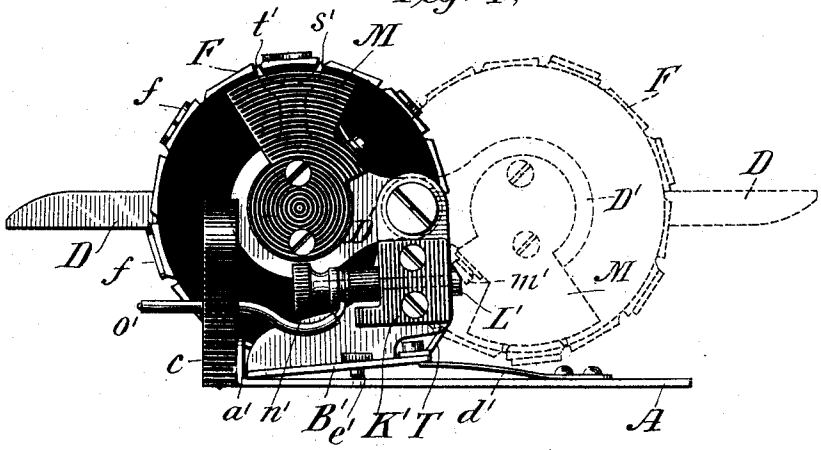
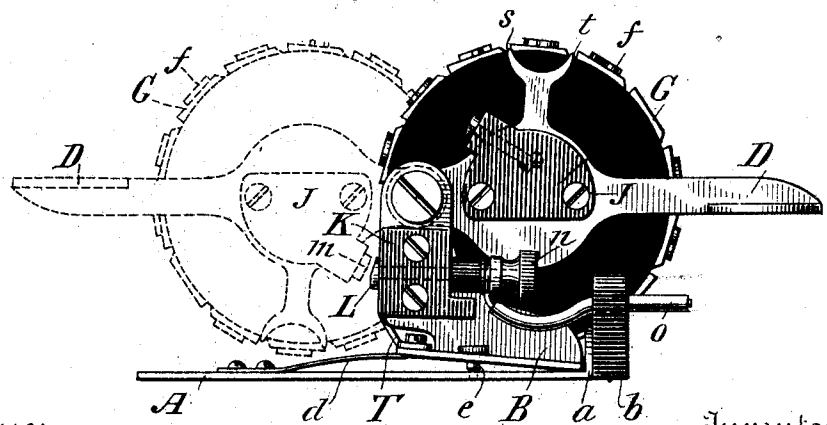


Fig. 5,



Witnesses
C. E. Ashley
H. W. Lloyd

Inventors
Birney Fellowes & Henry Van Hoevenbergh
By their Attorneys
Popkin Rodgers & Lyons

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 619,471. Patented Feb. 14, 1899.

B. FELLOWES & H. VAN HOEVENBERGH.

ELECTRIC BRANDING DEVICE.

(Application filed Aug. 2, 1894.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 6,

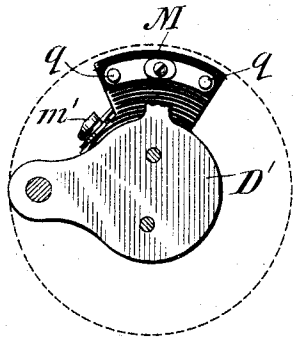


Fig. 8,

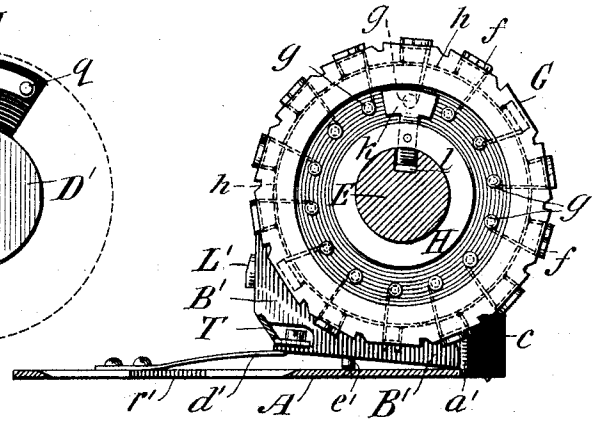


Fig. 7,

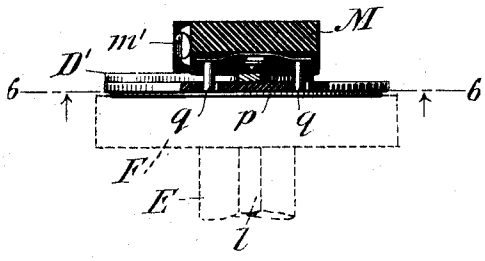


Fig. 9.

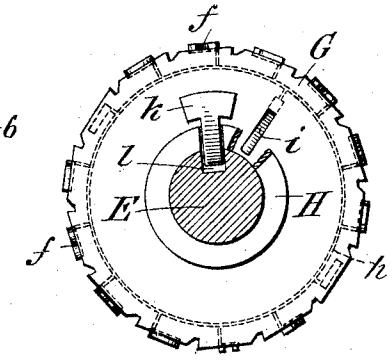


Fig. 12.



Fig. 10,

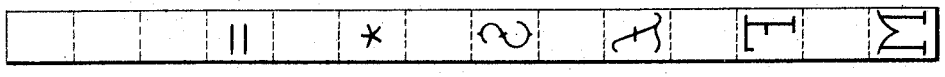
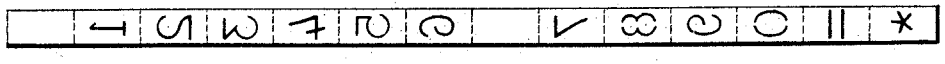


Fig. 11,



Witnesses
C. E. Ashley
H. W. Lloyd.

Inventors
Birney Fellowes & Henry Van Hoevenbergh
By their Attorneys
Popkin & Logan

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BIRNEY FELLOWES AND HENRY VAN HOEVENBERGH, OF NEW YORK, N. Y., ASSIGNORS TO HENRIETTA LONSDALE FELLOWES, OF SAME PLACE.

ELECTRIC BRANDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 619,471, dated February 14, 1899.

Application filed August 2, 1894. Serial No. 519,262. (No model.)

To all whom it may concern:

Be it known that we, BIRNEY FELLOWES and HENRY VAN HOEVENBERGH, citizens of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Electric Branding Devices, of which the following is a specification.

This invention relates to branding upon or through the material of a fabric a plurality of characters so arranged that the configuration of the branded design may be varied.

The invention is designed more particularly to render a design branded upon a fabric inalterable—as, for example, the figures representing the amount for which a check or other order or obligation for the payment of money is drawn—but may also be applied to other uses, such as the ornamentation of a material or fabric capable of being burned or branded.

The invention involves an apparatus for conveniently varying the design of the brand and burning the same upon or through the surface to be branded.

In carrying out our invention we provide an apparatus with a series of characters capable of being heated to a branding temperature by the closure of an electric circuit and arrange the apparatus so that the characters may be burned upon the fabric to be branded in the desired order of sequence or grouping. The preferred form of apparatus with which we operate comprises a series of disks having set peripherally in each of the disks a group of characters, the disks being so arranged that any character of one disk may be made to aline with a character or characters in other disks, and means for making the proper circuit connections in any condition of adjustment, so that the desired group of characters may be heated to a branding temperature.

The several features of novelty of the invention will be more particularly hereinafter described, and will be definitely indicated in the claims appended to this specification.

In the accompanying drawings, which illustrate one form of the invention, Figure 1 is a perspective view of the apparatus; Fig. 2, a check with the amount six thousand five hundred and seventy-two dollars ($6,572) burned by means of our instrument into or through the paper upon which the check is written; Fig. 3, a longitudinal sectional view of the instrument, showing the arrangement of the character-disks and the manner in which the current is conducted to the various characters; Fig. 4, an elevation of the left-hand end, showing the shaft with the disks in normal position, the working position being shown by dotted lines; Fig. 5, the right-hand end view of the same. Figs. 6, 7, 8, and 9 show the details of the electric connections and switches; Figs. 10 and 11, the dispositions of the characters upon the disks, and Fig. 12 a detail view of the manner of folding the resisting material which constitutes the branding character.

In all of the drawings like letters refer to the same parts.

A is a frame punched from sheet metal, with two lips *a a'*, Figs. 1 and 4, turned up at right angles to its plane. The lip *a* holds the insulating-block *b*. The lip *a'* has a handle *c*, Figs. 3 and 4, screwed to it. Two springs *d d'*, screwed to the plate A, press the frame-pieces B and B' to their upper limit, determined by the screws *e e'*, Figs. 4 and 5. The frame-piece D ends in a handle. The frame-pieces D D' are rigidly connected by a shaft E, made of non-conducting material and slotted throughout its length, and turn upon journals or pivots mounted in frame-pieces B B'. Upon this shaft, mounted so as to turn easily, are disks F G, &c., made of a hard composition, necessarily a good insulator and fireproof. Characters *f f f*, made of thin sheet metal, preferably German silver, cut into the shape of a narrow ribbon and bent into the desired form, are partially embedded in the periphery of the disks, wires attached to the ends of the slips being embedded in the material of the disk. One of the wires connected to a character is brought to a special stud *g*, Fig. 8, for said character, the other wire of the several characters being connected to a conductor common to all the characters of a disk to which is fastened a spring *i*, Fig. 9, the free end of which bears against the metal ring H, which encircles the shaft, but is prevented from turning with the disks by the spring *k*. This spring is riveted to the ring H, is bent into the slot *l* of the shaft E, and

then bent upward, ending in a broad wing. This wing always rests upon one of the studs *g*.

A block J, of slate or other fireproof insulating material, is fixed to the handle or frame-piece D and carries a screw ending in a stud *m*, Fig. 5, which connects with the first ring upon the shaft E. There is another block of insulating material K fixed to the frame B and holding the screw and stud L and ending in the binding-screw *n*, which secures the connecting-wire O.

When the group of disks is in the position shown by the dotted lines, Figs. 4 and 5, and the handle D forcibly depressed, so as to bring the studs L and *m* into contact, the course of the circuit may be traced through the instrument as follows: From the connecting-wire O, leading from the generator, through the screw and stud L, Fig. 5, to and through the screw and stud *m* and a contact R on the shaft E, Fig. 3, to the first ring H, through the spring *k* to the stud *g* of the first right-hand disk, through the connecting-wire to and through the German-silver character *f* to the common conductor *h* and spring *i*, Fig. 9, to the ring and spring of the next disk. The route of the current is precisely the same for each ring and disk until the last or left-hand disk is reached. Here the common conductor instead of being a wire is a flat brass ring *p*, Fig. 7, secured to the side of this disk. Two spring-pins *q*, screwed to the insulated block M, press against the brass ring *p*, bringing the current to the stud *m'*, thence to the stud L', binding-screw *n'*, and conducting-wire *o'*, and back to the generator. (See Fig. 4.)

The shaft E, with the frame-pieces D D', constitutes a rigid frame, which is jointed to the plate A at *a a'*, Figs. 4 and 5, and has an up-and-down movement of about a quarter of an inch. The stud *m'* is set slightly in advance of the stud *m*, so that it touches the stud L' before the stud *m* touches the stud L. Thus contact with both points is insured, which might not be the case if all were set to touch at the same time.

Referring to Figs. 10 and 11, it will be seen that there are several blanks upon all of the disks—that is to say, several spaces on the periphery are not provided with branding characters. In order that the current may not be broken when the disks are set at these points, the studs *g* and the common conductor *h* are connected by means of a strip of German silver possessing about the average resistance of the characters. This strip is concealed in the body of the disk.

The character, as hereinbefore described, is formed from a strip of thin sheet metal, preferably German silver, bent to the shape required. This piece of metal is continuous, so that every portion of the character will form part of the electric circuit when it is used for branding. For example, in the figure shown as a star all of the points of the star except two will be formed of two thicknesses of the metal ribbon closely folded together, so that the adjacent faces will be in contact. We have discovered that such folding does not short-circuit the portions of metal lying at the end of the point, but that the films of oxid or other foreign substance residing on the adjacent surfaces of the metal offer a sufficient resistance to force the current to travel to the point of the star, and thus bring all parts of it to the required heat. Thus although folded into close contact without the intervention of insulating material the current will maintain all parts of the character at the required heat.

The operation of the instrument is as follows: Having decided what amount or number is to be recorded on the fabric, the operator places the instrument upon the surface, the point upon which the record is to be made being between the slots *r* and *r'* in the plate, Fig. 1. The disks are then in the position shown in Fig. 1. He turns the disks one by one, beginning with the left-hand one, until he has composed the desired amount, number, or arrangement—for instance, that shown at N, Fig. 2, viz., $6,572*. The object of the star is to prevent any figures being added to the record—in the case of a check or draft, for example. The precise position which the disks should occupy in order to print properly is determined by setting the slots formed in the disks at the sides of each character in line with the horns *s s' t t'*, Figs. 4 and 5. It may happen that the operator in placing the disks will not arrange them exactly in line. For example, one or more of them may be in advance or behind the correct position. In this case one of two things will happen—either the wheel will be pushed into line by the rule T, Figs. 1 and 8, entering the slots in the disks and acting as a corrector or, if too far out of line, the rule will prevent depression of the handle far enough to close the circuit. In the first case the correct group of characters will be branded. In the second the action of the apparatus will show that there is something wrong and the operator will be warned to remedy the trouble. Having placed the disks in position, the operator, holding the instrument down by means of the handle *c*, takes the other handle D with the thumb and finger of the right hand and turns the group of disks over until it assumes the position shown by the dotted lines, Figs. 4 and 5. Then pressing the handle D down firmly, the current follows the course already indicated, and the resistance of the German silver forming the characters being greater than that of any other part of the circuit the characters become heated to a degree determined by the design of the apparatus and the surface against which it is pressed is charred or burned through, thus marking the characters upon it. The group of disks is then raised, the first movement breaking the circuit. The springs *d d'* then lift the disks from the surface vertically in order that the edges of the fabric when burned through may not be mutilated.

The extrication of the letters from the surface is thus insured before they are thrown back into the normal position shown in Fig. 1.

The fabric at the edges of the burned characters is discolored, as shown by the shaded portions of the drawings at N, Fig. 2. This, with the charred edges of the perforated characters, it is believed, offers a perfect protection against any attempt in the case of an order for money to alter the value of the amount or number.

Although the apparatus organized as herein described is especially designed for the branding of a series of numerals, it will of course be understood that other characters might be employed and other arrangements of mechanism for varying the grouping of the characters so as to produce different configurations. By varying the strength of the current admitted to the apparatus the surfaces of the fabric may be scorched only or may be burned completely through. By employing other characters instead of letters designs may be formed for stamping, canceling, numbering, lettering, &c.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. An apparatus for branding a variable design upon a surface or fabric comprising a series of characters formed of metal and provided with connections for cutting them into an electric circuit, and means for adjusting them into various relations to vary the design to be branded.

2. An apparatus for branding a variable design comprising a plurality of groups of metallic characters, means for adjusting each group so as to bring any of its several characters into branding position, and circuit connections for leading an electric current through the several characters adjusted in branding position.

3. An apparatus for burning or branding a variable design, comprising a number of disks journaled side by side, bearing a series of characters formed of metal to be heated by an electric circuit, a supporting-frame and means for supplying an electric current.

4. The combination, in a check protecting or branding device, of disks of non-conducting fireproof material, type or metallic characters formed in the shapes of letters, figures or other signs, mounted in said disks, and means for connecting one or more of said characters in an electric circuit, substantially as described.

5. The combination, in a check protecting or branding device, of the disks G, G, studs g, g, characters f, f one side of which is electrically connected with the studs; switch k, and common conductor h, electrically connected with the other side of the characters, substantially as and for the purpose described.

6. The combination, in a check protecting or branding device, of the disk G, formed of a plastic, self-hardening compound, letters or characters formed of continuous conductive material having one edge embedded therein, switches and connections for conveying an electric current thereto, and a suitable frame for holding such disks, substantially as described.

7. A branding device comprising a series of disks mounted side by side carrying branding characters, means for depressing them into contact with a surface to be branded, the disk-supporting frame being pivoted to the main frame so as to be capable of being reversed to permit ease of adjustment of the several disks.

8. A branding device comprising a series of disks mounted side by side on a common axis, each disk being provided with a plurality of branding characters, and connections for closing the circuit only through the characters assembled for branding, a supporting-plate perforated on the branding-line, means for depressing the disks into contact with the surface to be branded, and means for exposing the characters to view while being composed for branding.

9. A branding device comprising a series of disks mounted side by side on a common axis, each disk being circumferentially adjustable and carrying a group of branding characters, and means for automatically correcting improper alinement proper alinement of the characters to be branded.

10. A branding character made of a strip of metal bent to the shape of the character and having one edge embedded in a support of refractory material and circuit connections for connecting its terminals with a source of current to heat the strip of metal.

11. A branding instrument comprising a series of circumferentially-adjustable disks, each provided with a plurality of branding characters formed of resistance metal and one or more blank spaces, a circuit connection for coupling the characters composed by the several disks into an electric circuit, and a resistance out of branding relation to the disk corresponding to the several blank spaces, whereby the resistance of the branding instrument will always be uniform.

In testimony whereof we have hereunto subscribed our names.

New York city, July 17, 1894.

BIRNEY FELLOWES.

Witnesses as to Fellowes:

ROBT. H. READ,

E. C. GRIGG.

Lake Placid, New York, July 26, 1894.

HENRY VAN HOEVENBERGH.

Witnesses as to Van Hoevenbergh:

H. A. FISHER,

G. G. WHITE.